# Code for Sustainable Homes (CSH) A Summary of How the Scheme Works

*Effective from April 2007 in England only*

## 1 Introduction

The new Code for Sustainable Homes was published by the government in December 2006 and becomes effective in England only from April 2007. This is widely regarded as an important tool for achieving 'zero carbon' status in housebuilding. The definition of a 'Zero Carbon Home' appears to be one which is both thermally efficient (at least 100% better than the minimum laid down in Part L 2006) and which locally generates all its own energy requirements (eg using solar panels on the roof). The government has stated that it wants to see all new homes achieve zero carbon status by 2016. The Code is based on many of the principles contained within the Ecohomes scheme, which in the case of new housing it replaces.

The government has made it clear that the Code signposts the direction that future changes to Building Regulations will take. In other words, the concepts, tools and standards in CSH will be encompassed in future changes to Part L of the England and Wales Building Regulations. At the time of writing the plans for Northern Ireland and Scotland were not available.

The CSH is a voluntary tool for both public and private housing developers. However, all public housing will need to achieve at least a 3 star rating if it is to obtain central government funding.

The government also hopes that the Code, with its maximum 6 star rating scheme, will provide a marketing tool for private developers. Consumers have responded very well to energy rating schemes for electrical white goods and the government hopes that by informing customers of the overall energy ratings of houses it will lead to the same positive changes in spending decisions.

Many of the details of the scheme have yet to be published. A technical guide to the Code is planned by government for April 2007.

## 2 The six star ratings and nine categories where points can be collected

Developments can achieve ratings from one to six stars. All star ratings are calculated on a 'points out of 100' basis across nine categories (see Table 1 below). Varying quantities of points are available in each of the nine categories. The lowest level, 1 star, demands an improvement on the minimum requirements given in Part L1A. The higher star ratings naturally require higher overall point scores. There is flexibility in how points are achieved, but some performance aspects are compulsory, as Table 1 summarises.

| The nine categories | Commentary on the flexibility allowed |
|---|---|
| 1 Energy / CO2<br>2 Water | These two areas are considered the most important and are therefore the least flexible. Minimum levels of performance are set for each star rating. |
| 3 Materials<br>4 Surface water run-off<br>5 Waste | Minimum performance levels are set for 1 star performance only. |
| 6 Pollution<br>7 Health and well-being<br>8 Management<br>9 Ecology | No minimum standards are set. |

**Table 1: The nine categories and the extent to which the requirements in each need to be met.**

Table 2 summarises how each star rating is achieved by meeting defined:
- Minimum energy performance levels
- Max water consumption levels
- Additional point scores across all nine categories

| Code level | Energy Standard (% better than Part L 2006) | Energy Points awarded | Water Standard (litres per person per day) | Water Points awarded | Other Points required |
|---|---|---|---|---|---|
| 1* | 10 | 1.2 | 120 | 1.5 | 33.3 |
| 2* | 18 | 3.5 | 120 | 1.5 | 43.0 |
| 3* | 25 | 5.8 | 120 | 1.5 | 46.7 |
| 4* | 44 | 9.4 | 105 | 4.5 | 54.1 |
| 5* | 100 | 16.4 | 80 | 7.5 | 60.1 |
| 6* | "Zero carbon home" | 17.6 | 80 | 7.5 | 64.9 |

**Table 2: The points and requirements for each of the six star ratings.**

## 3 Allocation of points

The tables below summarise how points can be collected against each of the nine categories. There are often graduations within each area, so that the point value quoted is only achieved by implementing the highest level of action recommended. Obviously one needs to read the code to establish the exact requirements. The tables are intended to help by showing the range of issues and the points that they can attract.

### 3.1 Energy / Carbon dioxide

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Target Emission Rate (TER) in Pt L1A 2006 | By achieving various % increases over Pt L1A requirements.<br>Top 2 levels are:<br>- 100% increase (needed for 5*)<br>- Zero carbon home (needed for 6*) | 16.4<br>17.6 |
| Building fabric | Heat Loss Parameter (no further details are given in CSH) | 2.4 |
| Internal lighting | Use of fixed fitting energy lights | 2.4 |
| Drying space | Physical provision for natural drying | 1.2 |

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Eco-labelled white goods | Provision of high rating equipment or information on benefits of buying them | 2.4 |
| External lighting | Use of dedicated energy efficient fittings | 3.6 |
| Low or zero carbon energy technologies | Use of local renewable or low carbon energy sources for min 10% of demand | 2.4 |
| Cycle storage | Provision of safe, weather-proof and secure storage. | 2.4 |
| Home office | Provision of space and services. | 1.2 |
| Sub-total | | 35.6 |

### 3.2 Water

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Internal potable water | By achieving low predicted consumption levels | 7.5 |
| External potable water | Provision of for example water butts | 1.5 |
| Sub-total | | 9.0 |

### 3.3 Materials

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Environmental impact of materials | By using A*, A or B rated materials for following major building elements: roofs, ext. and int. walls, floors and windows. Ratings derived from the new Green Guide, which has yet to be published. Due April 2007. | 4.5 |
| Responsible sourcing – basic elements eg walls | Eg timber certification | 1.8 |
| Responsible sourcing – finishing elements | Eg timber certification | 0.9 |
| Sub-total | | 7.2 |

### 3.4 Surface water run-off

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Reduction in surface water run-off | By achieving stated performance levels | 1.0 |
| Flood risk | By addressing the risks | 1.0 |
| Sub-total | | 2.0 |

### 3.5 Waste

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Household recycling | Provision of good facilities | 3.6 |
| Construction waste | Good site waste management | 1.8 |
| Composting facilities | Provision of good facilities | 0.9 |
| Sub-total | | 6.3 |

### 3.6 Pollution

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Global warming potential of insulant | Avoidance of materials which cause ozone depletion | 0.5 |
| Nitrous oxide emissions | Avoidance of NOx emissions from space heating and hot water systems | 2.0 |
| Sub-total | | 2.5 |

### 3.7 Health & well-being

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Daylight | Provision of good daylight standards | 4.0 |
| Sound insulation | Proving higher standards than Pt E | 4.0 |
| Private space | Provision of outside private space | 1.0 |
| Lifetime homes | Ability to cater now and in the future for reducing mobility | 4.0 |
| Sub-total | | 13.0 |

### 3.8 Management

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Construction site impacts | Good site management procedures | 2.2 |
| Security | Compliance with 'Secured By Design' for example | 2.2 |
| Sub-total | | 4.4 |

### 3.9 Ecology

| Issue | Commentary on how points are collected | Max pts avail. |
|---|---|---|
| Ecological value of site | Low disruption to ecology of site | 1.2 |
| Ecological enhancement | Features designed for ecological enhancement | 1.2 |
| Protection of ecological features | Existing features are protected during construction | 1.2 |
| Change in ecological value of the site | Enhanced value using Ecological Value Calculator | 4.8 |
| Building footprint | High combined floor area to footprint ratio | 2.4 |
| Sub-total | | 10.8 |

## 4 Certification for Code compliance

The four-stage process for achieving certification of code compliance is as follows:

1. The developer produces an initial design for appraisal.

2. A trained and certified Code Assessor conducts an initial assessment on the design, recommends a sustainability rating and issues an interim Code Certificate. This is carried out for each house type (but not each dwelling).

3. The assessor performs a post completion check on a sample of the development to verify the rating.

4. The assessor produces a final Code Certificate of compliance.

## 5 Points relating to materials

The minimum requirement set for all rating levels is that at least three of the following five elements of construction are specified to achieve a Green Guide rating of at least D:

- Roof structure and finishes
- External walls
- Upper floor
- Internal walls
- Windows and doors

Unfortunately the new Green Guide was not published at the same time as the Code for Sustainable Homes. At the time of writing no draft was available. The rating scheme is said to run from E to A / A+, so achieving a D rating would not seem to be too onerous.

Up to 4.5 points can also be acquired through using A+, A or B rated building elements for:

- Roof
- External walls
- Internal walls
- Floors – upper and ground
- Windows

Proof of responsible sourcing of materials can lead to a maximum of 2.7 additional points.

Again, further details are needed from the government to fully understand how the above two points systems will work.

## Further reading

A full copy of the Code for Sustainable Homes can be downloaded from www.planningportal.gov.uk

## Further help

TRADA members may contact the Members' Helpline for free on 01494 569601.

Suppliers and manufacturers can obtain advice on proving materials are responsibly sourced from BM TRADA on t: 01494 569700

For assistance with proving the environmental impact of materials / products, please contact TRADA Technology on t: 01494 569600.

## TRADA construction briefings

This document is part of a series of briefings for TRADA members on the key elements of building regulations and codes and how they relate to timber construction. Copies of all briefings are available at www.trada.co.uk

## Feedback

We welcome feedback from readers and if you have any comment on the content of this briefing please contact rscott@trada.co.uk.

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